

APPENDIX B

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**EF Moose Creek**  
**Pipeline MP 0.93**  
**ADF&G Stream No. N/A**  
**Site Visit: 9/2/05**

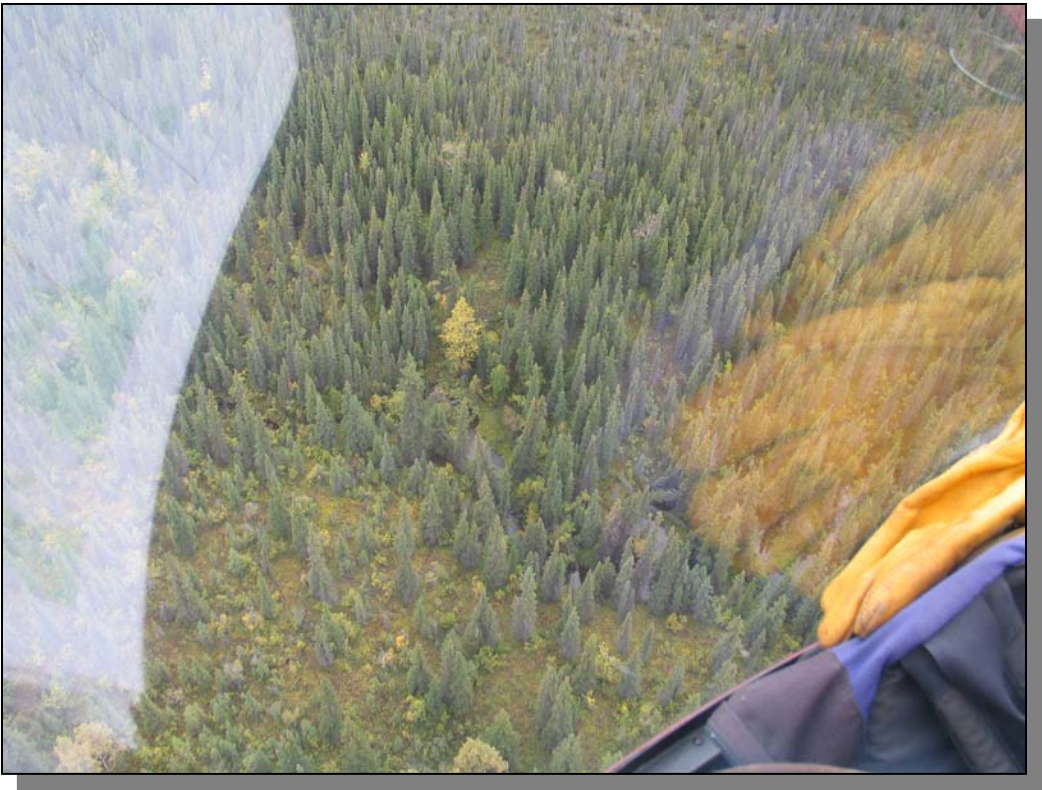
Crossing Description: The East Fork of Moose Creek is a low-gradient meandering stream with an estimated average stream width less than 10 feet. Its stream banks are generally bordered by heavy vegetation primarily consisting of stands of black spruce. Topographic relief along the proposed crossing is mild.

Soils Description: Interpreted terrain units of the crossing include lowland glaciofluvial meltwater deposits overlying and interspersed with glacial lacustrine deposits. These deposits generally consist of fine-grained material with scattered sand and gravel. Surface conditions indicated that permafrost may be encountered beneath this crossing.

Bedrock Description: Depth to bedrock is interpreted to be greater than 500 feet.



Approximate location of pipeline crossing



As above.

**Soils Studies**

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**

**Drawing No. B-01**



**Moose Creek**  
**Pipeline MP 3.85**  
**ADF&G Stream No. N/A**  
**Site Visit: 9/2/05**

Crossing Description: Moose Creek is a low-gradient meandering stream with an estimated average stream width less than 20 feet. Its stream banks are generally bordered by heavy vegetation primarily consisting of stands of black spruce. Topographic relief along the proposed crossing is mild.

Soils Description: Soils from the left to right bank are interpreted as floodplain deposits consisting of fine-grained material with scattered sand and gravel. Surface conditions indicated that permafrost may be encountered beneath this crossing.

Bedrock Description: Depth to bedrock is interpreted to be greater than 500 feet.



Approximate location of pipeline crossing, looking upstream.



As above.

**Soils Studies**

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**



**Tolsona Creek**  
**Pipeline MP 15.95**  
**ADF&G Stream No. 212-20-10080-2431-3082**  
**Site Visit: 9/2/05**

Crossing Description: Tolsona Creek is a high-gradient straight stream with an estimated average stream width less than 40 feet. Its stream banks are generally bordered by previously cleared vegetation primarily consisting of low stands of shrub and brush. Topographic relief along the proposed crossing is mild. The pipeline is anticipated to cross the stream on the north side of the highway.

Soils Description: Terrain units on the left and right of the Tolsona Creek floodplain are interpreted as glacial lacustrine generally consisting of fine-grained material with scattered sand and gravel. Within the stream bed and active floodplain, DOT&PF bridge borings indicate a thin layer (<10 feet) of floodplain deposits generally consisting of gravel and sand, containing cobbles and boulders. Permafrost was not noted by DOT&PF. The floodplain material is underlain by glaciolacustrine silts containing occasional cobbles and boulders. Soils become significantly more dense at about 60 feet. Glacial till is interpreted to occur at a depth of approximately 60 feet.

Bedrock Description: Depth to bedrock is estimated to be greater than 90 feet, based on DOT&PF bridge foundation test borings.



Proposed pipeline crossing; creek flows from right to left.  
Pipeline is anticipated to be routed on the upstream side of the bridge.



Creek is flowing from left to right.

**Soils Studies**

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**



**Duram Creek**  
**Pipeline MP 18**  
**ADF&G Stream No. 212-20-10080-2431-3075**  
**Site Visit: 9/2/05**

Crossing Description: Duram Creek appears to drain from Tolsona Lake to the Tazlina River toward the south. It appeared to be flowing through a bog-filled drainage swale. At the time of the site visit, Duram Creek was observed at a state of no flow. The drainage consists of a culvert running underneath the highway and appears to possibly drain into two lakes located on the south side of the highway. At periods of seasonal high water or flooding, total flow and stream gradient is anticipated to be low. Topographic relief along the crossing is minimal. The pipeline is anticipated to cross the stream on the north side of the highway.

Soils Description: Soils on both banks and underlying Duram Creek are interpreted as glacial lacustrine; generally consisting of fine-grained material with scattered sand and gravel. Permafrost and ice-rich soils can be anticipated at this crossing.

Bedrock Description: Depth to bedrock is unknown; however surficial deposits are anticipated to be greater than 25 feet in depth within the immediate area of the crossing.



Creek flow is from left to right.  
Duram Creek is believed to drain into lakes located in right center of photo.



Looking upstream at Duram Creek crossing. Note repaired highway section.

*Soils Studies*

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**

**Drawing No. B-04**



**Little Woods Creek**  
**Pipeline MP 20.09**  
**ADF&G Stream No. N/A**  
**Site Visit: 9/2/05**

Crossing Description: Little Woods Creek is a low-gradient straight stream with an estimated maximum width of less than five feet within the vicinity of the proposed crossing. Its stream banks are generally free from any dense vegetation stands and the predominant vegetation type is interpreted as moist lowland tundra. The pipeline is anticipated to cross the stream on the north side of the highway.

Soils Description: Immediately underneath and on both sides of the stream bed, soils are interpreted as being organics overlying fine-grained floodplain deposits. Organics generally consist of decomposed and undecomposed organic material with some silt. The floodplain deposits generally consist of silt and clay with scattered sand and gravel. To the east and west and coinciding with the black spruce vegetation line, soils are interpreted to be lacustrine deposits overlying glacial till. The lacustrine deposits generally consist of sandy silt and silty sand with some clay and occasional pebbles while the underlying glacial till deposits generally consist of gravelly silty sand and gravelly sandy silt containing cobbles and boulders. Surface conditions indicated that permafrost may be encountered beneath this crossing.

Bedrock Description: Depth to bedrock is unknown. Surficial deposits are anticipated to be greater than 25 feet in depth within the immediate area of the crossing.



Little Woods Creek crossing, stream flow is from left (north) to right (south).



Little Woods Creek crossing, stream flow is from bottom (north) to top (south).

**Soils Studies**

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**

**Drawing No. B-05**



**Atlasta Creek**  
**Pipeline MP 23.9**  
**ADF&G Stream No. 212-20-10080-2431-3122**  
**Site Visit: 9/2/05**

Crossing Description: At the time of the site visit, Atlasta Creek was observed to be in a period of no flow. Debris flows consisting of black spruce observed on the north side of the road were interpreted to have been deposited by surface water sheet flow. Therefore, Atlasta Creek is interpreted to have an extremely variable flow rate which is dependant on surface water runoff. The pipeline is anticipated to cross the stream on the south side of the highway.

Soils Description: Soils within the immediate vicinity of the proposed crossing are interpreted as being glacial till interspersed with some colluvium overlying glacial till. The colluvium generally consists of various mixtures of sand, silt, and gravel containing scattered cobbles and boulders which have been transported downslope from bedrock exposures north of the crossing. The glacial till generally consists of gravelly silty sand and gravelly sandy silt containing cobbles and boulders. Surface conditions indicated that permafrost may be encountered under this crossing.

Bedrock Description: Just to the north and upslope of the Atlasta Creek crossing, bedrock has been interpreted as underlying the glacial till deposits. Depth to bedrock is unknown, however surficial deposits are anticipated to be greater in depth than the anticipated depth of the pipeline trench/boring required for the Atlasta Creek crossing.



Atlasta Creek crossing, stream flow is from right (north) to left (south).



Atlasta Creek crossing, stream flow is from top (north) to bottom (south).  
Note repaired pavement section.

**Soils Studies**

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**

**Drawing No. B-06**



**Tex Smith Lake Drainage**  
**Pipeline MP 26.76**  
**ADF&G Stream No. N/A**  
**Site Visit: 9/2/05**

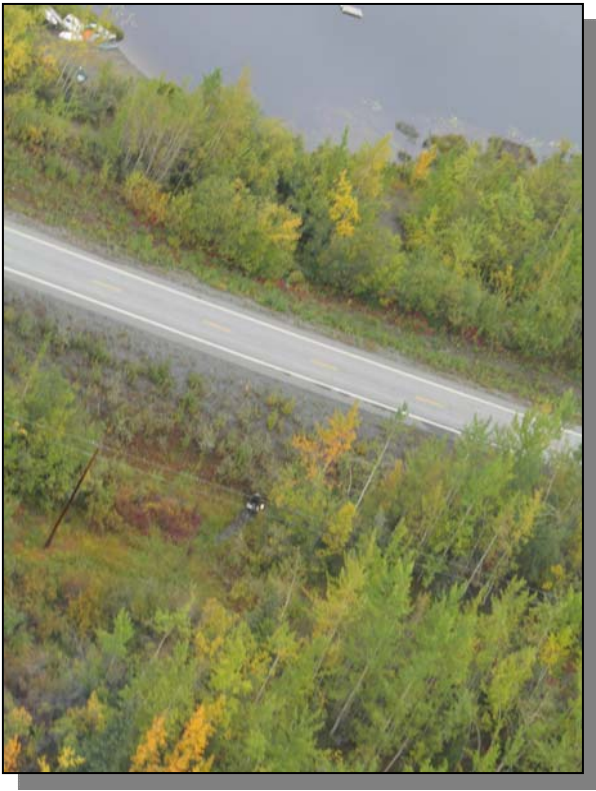
Crossing Description: At the time of our site visit Tex Smith Lake drainage was observed at a state of no flow. The drainage consists of a culvert running underneath the highway and appears to periodically drain the lake located on the north side of the highway. At periods of seasonal high water or flooding, total flow and stream gradient is anticipated to be low. Topographic relief along the crossing is minimal. The pipeline is anticipated to cross the stream on the south side of the highway.

Soils Description: Soils within the immediate vicinity of the proposed crossing are interpreted as being glacial till interspersed with some colluvium overlying glacial till. The colluvium generally consists of various mixtures of sand, silt, and gravel containing scattered cobbles and boulders which have been transported downslope from bedrock exposures north of the crossing. The glacial till generally consists of gravelly silty sand and gravelly sandy silt containing cobbles and boulders. Surface conditions indicate that permafrost may be encountered at this crossing.

Bedrock Description: Just to the north and upslope of the drainage crossing, bedrock has been interpreted as underlying the glacial till deposits. Depth to bedrock is unknown, however surficial deposits are anticipated to be greater in depth than the anticipated depth of the pipeline trench/boring required for the drainage crossing.



Overview of Tex Smith Lake drainage crossing.  
Drainage flow is from top (north) to bottom (south).



As above.  
Note drainage culvert in center of photo.

**Soils Studies**

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**

**Drawing No. B-07**



**Woods Creek**  
**Pipeline MP 34.51**  
**ADF&G Stream No. 212-20-10080-2431-3122-4010**  
**Site Visit: 9/2/05**

Crossing Description: Woods Creek is a low-gradient straight stream with an estimated maximum width of less than five feet within the vicinity of the proposed crossing. Its stream banks are generally free from any dense vegetation stands and the predominant vegetation type is interpreted as moist lowland tundra. The pipeline is anticipated to cross the stream on the north side of the highway.

Soils Description: Immediately underneath and on both sides of the stream bed, soils are interpreted as being organics overlying floodplain deposits. Organics generally consist of decomposed and undecomposed organic material with some silt while floodplain deposits generally consist of gravel and sand containing cobbles and boulders. Surface conditions indicated that permafrost may be encountered at this crossing.

Bedrock Description: Depth to bedrock is unknown, however surficial deposits are anticipated to be greater in depth than the anticipated depth of the pipeline trench/boring required for the Woods Creek crossing.



Proposed Woods Creek crossing, stream flow is from left (north) to right (south).



As above.

**Soils Studies**

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**

**Drawing No. B-08**

**Mendeltna Creek**  
**Pipeline MP 35.8**  
**ADF&G Stream No. 212-20-10080-2431-3142**  
**Site Visit: 9/2/05**

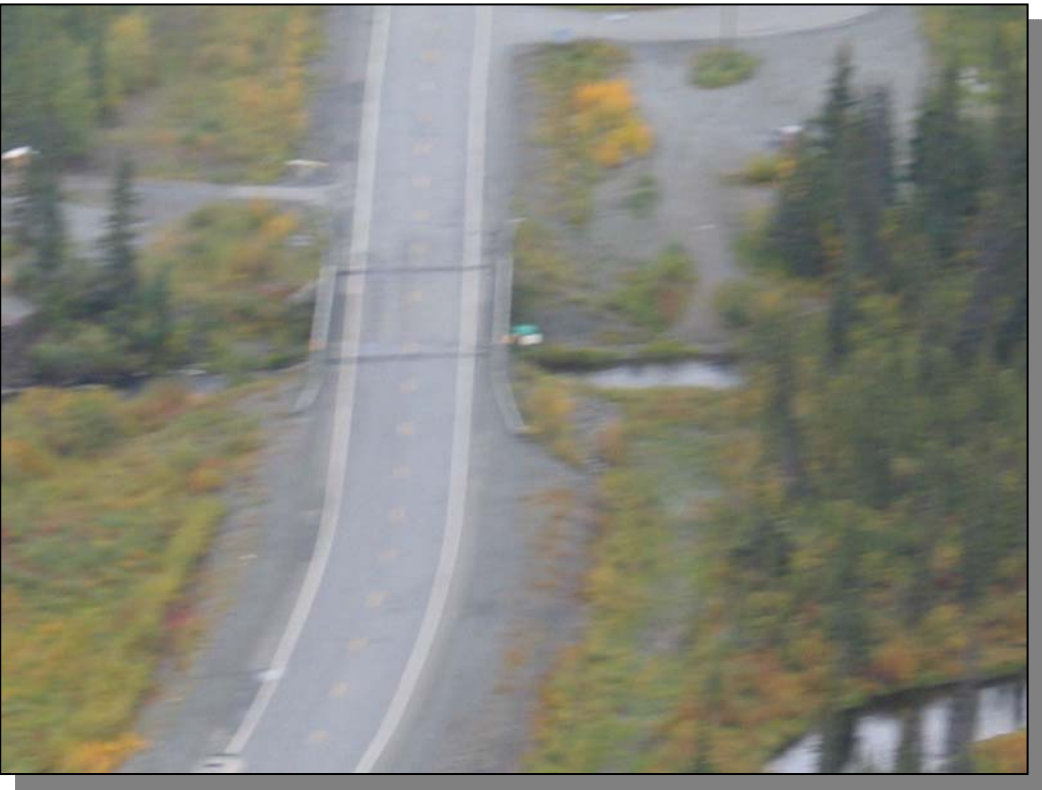
Crossing Description: Mendeltna Creek is a low-gradient meandering stream with an estimated average stream width less than 40 feet. Its stream banks are generally bordered by previously cleared vegetation primarily consisting of low stands of shrub, brush, and black spruce. Topographic relief along the proposed crossing is mild. The pipeline is anticipated to cross the stream on the north side of the highway.

Soils Description: Soils from the left to right bank are interpreted as floodplain deposits consisting of fine-grained material with scattered sand and gravel. Immediately to the west of the right bank floodplain, soils are interpreted as being glacial lacustrine deposits also consisting of fine-grained material with scattered sand and gravel. Surface conditions indicate that permafrost may be present in the stream banks but may be absent under the channel.

Bedrock Description: Depth to bedrock is unknown, however surficial deposits are anticipated to be greater in depth than the anticipated depth of the pipeline trench/boring required for the Mendeltna Creek crossing.



Overview of Mendeltna Creek crossing, stream flow is from top (north) to bottom (south).



Overview of Mendeltna Creek crossing, stream flow is from right (north) to left (south).

*Soils Studies*

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**Natural Gas Pipeline**  
**FIELD SITE DESCRIPTION**  
**Glennallen to Palmer Spur Line**

**Drawing No. B-09**



Cache Creek  
Pipeline MP 41.22  
ADF&G Stream No. N/A  
Site Visit: 9/2/05

Crossing Description: At the time of our site visit Cache Creek was observed in a state of low flow. The drainage consists of a culvert running beneath the highway and drains Snowshoe Lake to the north. At periods of seasonal high water or flooding, total flow and stream gradient is anticipated to increase. Topographic relief along the crossing is minimal. The pipeline is anticipated to cross the stream on the north side of the highway.

Soils Description: Soils on the right bank of Cache Creek are anticipated to be colluvium overlying glacial lacustrine deposits. Soils on the left bank are interpreted as glacial lacustrine deposits. Colluvium deposits generally consist of various mixtures of sand, silt and gravel with scattered cobbles and boulders. Glacial lacustrine deposits generally consist of fine-grained material with scattered sand and gravels. Surface conditions indicate that permafrost may be encountered at this crossing.

Bedrock Description: Depth to bedrock is unknown, however surficial deposits are anticipated to be greater in depth than the anticipated depth of the pipeline trench/boring required for the drainage crossing.



Overview of Cache Creek crossing, stream flow is from top (north) to bottom (south).



Overview of Cache Creek crossing, stream flow is from bottom (north) to top (south).

*Soils Studies*

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Natural Gas Pipeline  
FIELD SITE DESCRIPTION  
Glennallen to Palmer Spur Line